

Amendments to the Claims:

1-82. (Canceled)

83. (New) A rotary tool holder assembly for high speed rotation comprising a collet and a shaft, the collet being moveable relative to the shaft between a tool gripping position, in which an inserted tool can be gripped for rotation, and a tool release position, the shaft comprising a bore for receiving the collet, the shaft and collet shaped such that when the rotary tool holder assembly is rotated at a high speed the inner surface of the shaft bore substantially fits the outer surface of the collet wherein the outer surface of the collet and the inner surface of the shaft are tapered, the collet and the shaft bore tapering radially inwardly away from a tool receiving mouth of the collet such that when the rotary tool holder is stationary, the taper angle of the collet is greater than the taper angle of the shaft and at least one of the shaft and the collet is arranged such that when the rotary tool holder assembly is rotated at a high speed there is relative deformation between the outer surface of the collet and the inner surface of the shaft bore to give the substantial fit therebetween and wherein a friction reducing coating is provided between at least a portion of the inner surface of the shaft and the outer surface of the collet.

84. (New) A rotary tool holder assembly according to claim 83 in which at least part of an outer surface of the collet which faces the inner surface of the shaft bore is coated with a friction reducing coating.

85. (New) A rotary tool holder assembly according to claim 83 in which the collet comprises a plurality of jaw portions for gripping an inserted tool, at least one of the collet and the shaft are tapered so that axial movement of the collet relative to the shaft one of causes and allows the jaw portions of the collet to move in a direction transverse to the axis of the collet for gripping and releasing of an inserted tool.

86. (New) A rotary tool holder assembly according to claim 83 in which the collet is carried by a bobbin arranged for axial movement within a bore of the shaft.

87. (New) A rotary tool holder assembly according to claim 83 in which a spring is provided for biasing the collet towards the gripping position.

88. (New) A rotary tool holder assembly according to claim 86 comprising a spring arranged for acting on the bobbin to bias the collet towards the gripping position.

89. (New) A rotary tool holder assembly according to claim 87 in which at least a portion of the spring is coated with a friction reducing coating.

90. (New) A rotary tool holder assembly according to claim 88 in which at least a portion of the spring is coated with a friction reducing coating.

91. (New) A rotary tool holder assembly according to claim 87 in which the spring is disposed in a spring receiving bore which is provided in the shaft, at least a portion of the spring receiving bore being coated with a friction reducing coating.

92. (New) A rotary tool holder assembly according to claim 83 in which the coating is applied to parts using a low temperature process to avoid changing the properties of the materials of the coated components.

93. (New) A rotary tool holder assembly comprising:
a collet carried by a shaft, the collet being moveable relative to the shaft between a tool gripping position, in which an inserted tool can be gripped for rotation, and a tool release position; and
a spring disposed in a spring receiving bore for biasing the collet towards the gripping position, a friction reducing coating being provided between at least a portion of the spring and the spring receiving bore.

94. (New) A rotary tool holder assembly according to claim 93 which is arranged for high speed rotation.

95. (New) A rotary tool holder assembly according to claim 93 in which at least one portion of the collet is coated with a friction reducing coating.

96. (New) A rotary tool holder assembly according to claim 93 in which the collet comprises a plurality of jaw portions for gripping an inserted tool, at least one of the collet and the shaft are tapered so that axial movement of the collet relative to the shaft one of causes and allows the jaw portions of the collet to move in a direction transverse to the axis of the collet for gripping and releasing of an inserted tool and at least some of the taper surfaces of at least one of the collet and the shaft are coated with a friction reducing coating.

97. (New) A rotary tool holder assembly according to claim 93 in which the collet is carried by a bobbin arranged for axial movement within a bore of the shaft.

98. (New) A rotary tool holder assembly according to claim 97 in which the spring is arranged for acting on the bobbin to bias the collet towards the gripping position.

99. (New) A rotary tool holder according to claim 93 wherein at least a portion of the spring is coated with a friction reducing coating.

100. (New) A rotary tool holder assembly according to claim 93 in which the coating is applied to parts using a low temperature process to avoid changing the properties of the materials of the coated components.

101. (New) A method of manufacturing a rotary tool holder assembly comprising a collet carried by a shaft, wherein the collet is moveable relative to the shaft between a tool gripping position, in which an inserted tool can be gripped for rotation, and a tool release position, and a spring disposed in a spring receiving bore for biasing the collet towards the gripping position the method comprising the steps of machining and finishing a plurality of component parts of the assembly within selected manufacturing tolerances and after the machining and finishing steps, applying a friction reducing coating between at least one portion of the spring and the spring receiving bore without causing the dimensions of the coated component to fall outside of the selected tolerances.

102. (New) A rotary tool holder assembly for high speed rotation comprising a collet and a shaft, the collet being moveable relative to the shaft between a tool gripping position, in which an inserted tool can be gripped for rotation, and a tool release position, the shaft

comprising a bore for receiving the collet, the shaft and collet shaped such that when the rotary tool holder assembly is rotated at a high speed the inner surface of the shaft bore substantially fits the outer surface of the collet wherein the outer surface of the collet and the inner surface of the shaft are tapered, the collet and the shaft bore tapering radially inwardly away from a tool receiving mouth of the collet such that when the rotary tool holder is stationary, the taper angle of the collet is greater than the taper angle of the shaft and at least one of the shaft and the collet is arranged such that when the rotary tool holder assembly is rotated at the high speed there is relative deformation between the outer surface of the collet and the inner surface of the shaft bore to give the substantial fit therebetween and wherein a friction reducing coating is provided between at least a portion of the inner surface of the shaft and the outer surface of the collet, the rotary tool holder assembly further comprising a spring disposed in a spring receiving bore for biasing the collet towards the gripping position, a friction reducing coating being provided on at least a portion of the spring.

103. (New) A rotary tool holder assembly comprising:
a collet carried by a shaft, the collet being moveable relative to the shaft between a tool gripping position, in which an inserted tool can be gripped for rotation, and a tool release position; and
a spring disposed in a spring receiving bore for biasing the collet towards the gripping position, a friction reducing coating being provided on at least a portion of the spring.

104. (New) A rotary tool holder assembly comprising:
a collet carried by a shaft, the collet being moveable relative to the shaft between a tool gripping position, in which an inserted tool can be gripped for rotation, and a tool release position; and
spring means disposed in a spring receiving bore for biasing the collet towards the gripping position, a friction reducing coating being provided between at least a portion of the spring means and the spring receiving bore.